

Summary of Patents

Ex.	Name	Application/Patent No.	Abstract
13	OILFIELD WATER AND WELL MANAGEMENT USING MODELED PREDICTIONS OF OILFIELD WATER PRODUCTION OR HYDROCARBON PRODUCTION	Application # 14/837,930 Patent # 10565540	A method for managing oilfield water. Oilfield water data is grouped into discrete and non-overlapping groups. Outliers are removed from the data. Features of the remaining data are analyzed to identify most discriminative feature. The data is separated into training data and testing data, and the training data is fit into a model that shows the best precision, accuracy and recall. The model is confirmed using the testing data. Upon confirmation of the accuracy of the model, the model is applied to data for a new proposed oilfield well, and a new proposed project is implemented or disapproved based on a result of the identified model that predicts water production of the new proposed oilfield well.
14	OILFIELD WATER MANAGEMENT	Application # 17/350,566 Patent # 11556882	A method for managing oilfield water. Oilfield water data is grouped into discrete and non-overlapping groups. Outliers are removed from the data. Features of the remaining data are analyzed to identify most discriminative feature. The data is separated into training data and testing data, and the training data is fit into a model that shows the best precision, accuracy and recall. The model is confirmed using the testing data. Upon confirmation of the accuracy of the model, the model is applied to data for a new proposed oilfield well, and a new proposed project is implemented or disapproved based on a result of the identified model that predicts water production of the new proposed oilfield well.
15	IMAGING PROCESSING OF AERIAL IMAGERY FOR ENERGY INFRASTRUCTURE ANALYSIS	Application # 16/425,192 Patent # 10467473	A computer-implemented method for processing images to identify Energy Infrastructure (EI) features within aerial images of global terrain is provided. The image processing method identifies information about EI features by applying an EI feature recognition model to aerial images of global terrain. The EI feature recognition model identifies the EI feature information according to image content of the aerial image and according to supplemental information about EI features in the global terrain. The method further uses the results of the identification to update the EI feature recognition model.
16	IMAGING PROCESSING OF AERIAL IMAGERY FOR ENERGY INFRASTRUCTURE ANALYSIS	Application # 16/663,724 Patent # 10726263	A computer-implemented method for processing images to identify Energy Infrastructure (EI) features within aerial images of global terrain is provided. The image processing method identifies information about EI features by applying an EI feature recognition model to aerial images of global terrain. The EI feature recognition model identifies the EI feature information according to image content of the aerial image and according to supplemental information about EI features in the global terrain. The method further uses the results of the identification to update the EI feature recognition model.

17	IMAGING PROCESSING OF AERIAL IMAGERY FOR ENERGY INFRASTRUCTURE ANALYSIS USING JOINT IMAGE IDENTIFICATION	Application # 16/425,227 Patent # 10460169	A computer-implemented method for processing images to identify Energy Infrastructure (EI) features within aerial images of global terrain is provided. The image processing method identifies information about EI features by applying an EI feature recognition model to aerial images of global terrain. The EI feature recognition model identifies the EI feature information according to image content of the aerial image. The method further provides updates to the identification of the EI feature information according to relationships between identified EI features.
18	IMAGING PROCESSING OF AERIAL IMAGERY FOR ENERGY INFRASTRUCTURE ANALYSIS USING JOINT IMAGE IDENTIFICATION	Application # 16/663,753 Patent # 10915751	A computer-implemented method for processing images to identify Energy Infrastructure (EI) features within aerial images of global terrain is provided. The image processing method identifies information about EI features by applying an EI feature recognition model to aerial images of global terrain. The EI feature recognition model identifies the EI feature information according to image content of the aerial image. The method further provides updates to the identification of the EI feature information according to relationships between identified EI features.
19	IMAGING PROCESSING OF AERIAL IMAGERY FOR ENERGY INFRASTRUCTURE ANALYSIS USING PRE-PROCESSING IMAGE SELECTION	Application # 16/289,376 Patent # 10339646	A computer-implemented method for selecting aerial images for image processing to identify Energy Infrastructure (EI) features is provided. The method includes performing image processing on aerial images of a portion of global terrain captured at different times to determine differences in terrain content the captured images. Aerial images are selected for further image processing according to identified differences in terrain content. The selected images are imaged processed via an EI feature recognition type to identify EI features within the images.
20	IMAGING PROCESSING OF AERIAL IMAGERY FOR ENERGY INFRASTRUCTURE ANALYSIS USING PRE-PROCESSING IMAGE SELECTION	Application # 16/457,065 Patent # 11004192	A computer-implemented method for selecting aerial images for image processing to identify Energy Infrastructure (EI) features is provided. The method includes performing image processing on aerial images of a portion of global terrain captured at different times to determine differences in terrain content the captured images. Aerial images are selected for further image processing according to identified differences in terrain content. The selected images are imaged processed via an EI feature recognition type to identify EI features within the images.
21	IMAGING PROCESSING OF AERIAL IMAGERY FOR ENERGY INFRASTRUCTURE ANALYSIS USING PRE-PROCESSING IMAGE SELECTION	Application # 17/314,556 Patent # 11379971	A computer-implemented method for selecting aerial images for image processing to identify Energy Infrastructure (EI) features is provided. The method includes performing image processing on aerial images of a portion of global terrain captured at different times to determine differences in terrain content the captured images. Aerial images are selected for further image processing according to identified differences in terrain content. The selected images are imaged processed via an EI feature recognition type to identify EI features within the images.

22	IMAGING PROCESSING OF AERIAL IMAGERY FOR ENERGY INFRASTRUCTURE SITE STATUS ANALYSIS	Application # 16/425,235 Patent # 10460170	A computer-implemented method for processing images to determine EI site status is provided. The method includes image processing of an aerial image by two EI feature recognition models. A first EI feature recognition model recognizes a first EI feature and a second EI feature recognition model recognizes a second EI feature. The results of each model are further used to determine a composite indication of EI site status.
23	IMAGING PROCESSING OF AERIAL IMAGERY FOR ENERGY INFRASTRUCTURE SITE STATUS ANALYSIS	Application # 16/663,769 Patent # 10719708	A computer-implemented method for processing images to determine EI site status is provided. The method includes image processing of an aerial image by two EI feature recognition models. A first EI feature recognition model recognizes a first EI feature and a second EI feature recognition model recognizes a second EI feature. The results of each model are further used to determine a composite indication of EI site status.
24	IDENTIFICATION AND VALIDATION OF ROADS USING AERIAL IMAGERY AND MOBILE LOCATION INFORMATION	Application # 16/506,446 Patent # 10635904	Systems and methods are described for identifying and validating the routes and characteristics of roads unknown to a road mapping database. The systems and methods may combine feature recognition analysis of aerial images with other information sources such as location tracking information from a mobile device or client in order to improve the accuracy of road information stored within a road mapping database. The systems and methods may also facilitate the collection of additional information regarding the characteristics of the identified roads from a client device or user thereof.
25	IDENTIFICATION AND VALIDATION OF ROADS USING AERIAL IMAGERY AND MOBILE LOCATION INFORMATION	Application # 16/857,638 Patent # 11048937	Systems and methods are described for identifying and validating the routes and characteristics of roads unknown to a road mapping database. The systems and methods may combine feature recognition analysis of aerial images with other information sources such as location tracking information from a mobile device or client in order to improve the accuracy of road information stored within a road mapping database. The systems and methods may also facilitate the collection of additional information regarding the characteristics of the identified roads from a client device or user thereof.
26	DETERMINATION OF REFINED OILFIELD WATER DISPOSAL LOCATIONS BASED ON LEGAL NOTIFICATIONS	Application # 16/670,080 Patent # 10810688	Provided herein are systems and methods for determining a refined oilfield location area from a notified oilfield location. The methods and systems access notifications of intent to obtain a notified oilfield location record that includes at least a notified place name, a notified distance from a place associated with the notified place name and a notified approximate direction from the place associated with the notified place name. The methods and systems further determine a candidate location area based on the notified distance and the notified approximate direction. The methods and system further obtain auxiliary information associated with information identified within the notification of intent. The methods and systems further determine a second candidate location area based on the auxiliary information and determine the refined location area based on an intersection of the first candidate location area and the second candidate location area.

27	SYSTEM AND METHOD FOR MONITORING DISPOSAL OF WASTEWATER IN ONE OR MORE DISPOSAL WELLS	Application # 16/583,737 Patent # 10975667	A system and method for monitoring disposal of wastewater in a disposal well includes: an event monitor sensor configured to identify a wastewater disposal event; and a second sensor configured to collect data about one or more characteristics of the wastewater during the wastewater disposal event. The data from the second sensor at the disposal well is analyzed to determine a classification of the wastewater, which is then reported to an operator or another interested party.
28	LOCATION DATA BASED ON INTELLIGENCE FOR SUPPLY CHAIN INFORMATION PLATFORMS	Application # 17/145,892 Patent # 11184740	Systems and methods are described for determining job classifications of anonymous users. Energy Infrastructure (EI) information associated with a known EI facility and anonymized location tracking data is obtained. The EI facility information includes a location of the known EI facility and an identification of the known EI facility, and the anonymized location tracking data includes visited locations associated with an anonymous user ID. A job classification is associated with the anonymous user ID based on a correlation between the visited locations, the location of the known EI facility, and the identification of the known EI facility. Location tracking data associated with a user of a known job classification can be used to identify a previously unknown EI facility.
29	LOCATION DATA BASED ON INTELLIGENCE FOR SUPPLY CHAIN INFORMATION PLATFORMS	Application # 17/532,505 Patent # 11601785	Systems and methods are described for determining job classifications of anonymous users. Energy Infrastructure (EI) information associated with a known EI facility and anonymized location tracking data is obtained. The EI facility information includes a location of the known EI facility and an identification of the known EI facility, and the anonymized location tracking data includes visited locations associated with an anonymous user ID. A job classification is associated with the anonymous user ID based on a correlation between the visited locations, the location of the known EI facility, and the identification of the known EI facility. Location tracking data associated with a user of a known job classification can be used to identify a previously unknown EI facility.
30	SYSTEMS AND METHOD FOR ASSESSING SEISMIC RISK	Application # 17/384,098 Patent # 11333792	Systems and methods for assessing seismic risk. The system and methods disclose deriving a model that is used to assess seismic risk of operations at a given location. A first location is identified for which at least one training seismic risk value is known from independent sources. A plurality of training input parameters associated with the first location is received. The at least one training seismic risk value is received. A process model is derived that relates the plurality of training input parameters to the at least one training seismic risk value by determining influence values of the training input parameters. A second location is identified for which a seismic risk is to be determined. A plurality of working input parameters associated with the second location is received. The process model is applied to the plurality of working input parameters to determine a seismic risk value at the second location.